

offering will do so by acquiring licenses one-by-one in the markets they seek to enter. This is exactly how the consolidation, which the Commission has observed in the cellular industry, is proceeding. Since the value of a contiguous nationwide market has yet to be determined, one should not be created by regulatory decree.

The ability to use PCS services nationwide does not depend on granting a nationwide license. Rather, the Commission can insure this goal by granting local licenses and requiring interoperability between PCS networks. NYNEX supports interoperability standards to assure that a roaming customer visiting other territories is able to make calls with the same equipment and through the same protocols.³⁶

B. PCS Service Areas Should "Mirror" Current Cellular Service Areas

The Commission has expressed a goal of maximizing the number of PCS providers and the number of services offered to consumers. The Commission notes that "smaller [than cellular] service areas may permit a broader participation by firms of all sizes in the PCS Market".³⁷ To attain the goals established, the Commission should not seek to limit the number of potential providers at the outset of PCS development and implementation. In order to facilitate the development of PCS, smaller entrepreneurial concerns may be limited in their

³⁶ NYNEX has demonstrated this commitment to interoperability standards by supporting the IS-41 interconnection standard.

³⁷ Notice, para. 59.

ability to offer PCS services beyond a relatively small service area. The Commission should not limit such entry into the PCS market.

The Commission's tentative conclusion that PCS service areas should be larger than those initially licensed in cellular³⁸ does not adequately reflect the economic and technological differences between cellular and PCS. The nation's demand for cellular service required the establishment of larger operating service areas, in part, to account for a need for consumers to "stay in touch" while traveling in automobiles. Increased user mobility permitted an expanded area of operations that exceeded original cellular coverage areas and led to the establishment of larger integrated service areas in response to market demands.

PCS, on the other hand, would satisfy the more parochial telecommunications demands of consumers. It would be inefficient to create larger service areas for PCS which serves a more local telecommunications need. Though the Commission is obviously struggling with the question of appropriate size for PCS service areas,³⁹ its tentative conclusion, "that PCS service areas should be larger than those initially licensed in cellular"⁴⁰ is counterintuitive.

At the outset, the Commission should consider the current 734 cellular markets, including Metropolitan

38 Notice, para. 60.

39 See, Notice, para. 58, 59.

40 Notice, para. 60.

Statistical Areas ("MSAs") and Rural Service Areas ("RSAs"), as appropriate PCS service areas. This service area designation will serve two important functions; first, it will allow the prospective PCS market to develop in a recognized cellular service area market. This will foster competition not only among PCS providers but between PCS licensees and existing cellular providers.

Second, an MSA/RSA service area will help ensure more widespread deployment of PCS to both metropolitan and rural areas. If larger service areas are created, e.g. those including both urban and rural areas, service coverage of that larger area, as might be required by the Commission on a population or a geographic area percentage basis, might lead license holders to concentrate service deployment to more populated areas only. This would disadvantage rural, and perhaps less affluent regions within the larger service area.

PCS providers, like the earlier cellular industry, may recognize economies of scale by later consolidating into larger "local" areas. This consolidation, should it occur, will be far easier to undertake than starting with larger service areas and then finding them inappropriate for PCS low-power microcell systems, having to sell off portion(s) of the larger service area.

VI. PCS SHOULD BE CLASSIFIED AS A COMMON CARRIER SERVICE

An important issue for the Commission to decide in this proceeding is the regulatory classification to be accorded prospective PCS licensees. PCS should be classified as a

common carrier service. Substantial competition will not develop if industry participants are forced to offer services under different regulatory schemes. Thus, the Commission's aim of fostering competition among PCS providers, other radio-based service providers and wireline providers will be thwarted to the extent PCS service providers are private carriers while a majority of their competitors are regulated as common carriers.

The Communications Amendments Act of 1982 established the functional approach for distinguishing between common carrier service and private land mobile radio service.⁴¹ The test - - - whether the system resells for profit telephone services or facilities of a common carrier - - - eliminated the case-by-case analysis previously required.

NYNEX does not see any limitations or qualification placed on the categories of eligible users of PCS services. The Commission notes that the "[p]roposed new services range from wireless replacements for ordinary residential and office telephones to communication devices capable of sending and receiving voice and data to and from virtually anywhere."⁴² If the customer base does not exclude any potential user, (i.e., services are offered indiscriminately), the provider is offering common carriage.⁴³

⁴¹ P.L. 97-259, 96 Stat. 1087 (September 3, 1982).

⁴² Notice, para. 29.

⁴³ This does not preclude the potential for certain services to be "narrowly targeted to specific customer groups or niche markets." Notice, para. 94. In those instances it may be proper to categorize individual services as private

VII. THE COMMISSION MUST CHOOSE A LICENSING METHODOLOGY FOR
PCS THAT BEST SERVES THE PUBLIC INTEREST

A. The Optimum Way To Ensure A Robust And Competitive
PCS Market Is To License Many Providers

The Commission notes its tentative decision to license three PCS service providers per applicable market, "to ensure a wide and rich range of PCS services that meet consumer needs at reasonable prices."⁴⁴ However, the Commission also seeks comment on the merits of authorizing more (e.g., 4 or 5) PCS licenses per market. Certainly five licenses could be accommodated without difficulty and it would be advantageous to users to allow for at least five providers per market area.⁴⁵ Also, issuing five licenses (or at least reserving the spectrum for five franchises), "is consistent with both the long run concern about competition as well as the shorter term concern about speed of deployment."⁴⁶ End users will then have the widest array of choices in both number of service providers and different services provided.

⁴³ (Footnote Continued From Previous Page)

land mobile radio services. However, such designations should be made affirmatively by prospective licensees. The Commission could then ensure that competition in such niche markets and geographical areas could be maintained on a case-by-case basis by issuance of competitive PCS service licenses.

⁴⁴ Notice, para. 34.

⁴⁵ A majority of PCS services currently under examination by experimental license holders require 20 MHz of spectrum (or less) to operate specific services.

⁴⁶ Byrnes Report, p. 29.

Further, the Commission's own universality requirement and projected market acceptance suggest the need to allocate as many licenses as possible in order to cover the demand for PCS services. The more licensees there are in an area, the more likely the opportunity that PCS providers will reach the greatest number of people, thus increasing competition while ensuring that spectrum-related services are offered to the greatest number of consumers.

The Commission has the ability to create a more competitive PCS industry by awarding five licenses per service area. Five providers per market area will ensure robust competition among PCS providers and further ensure that there is mass market availability of feature-rich PCS services.⁴⁷

B. Comparative Hearings Are The Best Way To Choose PCS Licensees

The Commission has tentatively concluded that comparative hearings would not be an appropriate licensing procedure for PCS.⁴⁸ The cellular industry licensing process is cited as an example of "how the Commission's regulatory processes can be manipulated to delay the initiation of a new

⁴⁷ The obvious interest demonstrated in an examination of the listing of the PCS experimental licensees/applicants in the NYNEX operating area would indicate the very real commercial appreciation of these potential PCS markets. Over twenty of the some two hundred applications examined focus on New York City while eleven focus on Boston. In addition, LOCATE and Bear, Stearns & Co., Inc. have announced a microcell system test in Bear, Stearns offices in New York and New Jersey. Press Release, September 30, 1992. Such interest is evidence of a healthy and vigorous competitive marketplace for such services.

⁴⁸ Notice, para. 82.

service."⁴⁹ The Commission is mistaken in its tentative conclusion. The cellular industry licensing process (in particular, its comparative hearing phase) was not an inefficient regulatory process.

The Commission's Report and Order concerning cellular systems noted that it was expected that there would be significant differences among competing cellular licensee applications.⁵⁰ As such, the Commission concluded that a "straight " lottery or auction procedure would be inappropriate at that time while reserving the right to undertake such measures as necessary in the future. In an effort to expedite the comparative hearings, the Commission detailed a procedure involving a "paper" comparative hearing process (decided by an Administrative Law Judge) as meeting the Ashbacker⁵¹ equity and public interest requirements.

The Cellular Order's expedited comparative hearing procedures established a foundation upon which the Commission could realistically institute a lottery procedure for cellular

⁴⁹ Notice, para. 7.

⁵⁰ In the Matter of An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems CC Docket No. 79-318, 86 F.C.C. 2d 469 at 499 (1981), (the "Cellular Order").

⁵¹ Ashbacker Radio Corporation v. FCC, 326 U.S. 327 (1945).

service licenses (other than the 30 largest markets) to select among mutually exclusive applications for each license.⁵²

NYNEX submits that PCS, in its initial stages, requires comparative hearing review. The relative success of the lottery process established in the Lottery Order was due to the fact that the initial comparative hearing process under the Cellular Order established or highlighted useful system designs enabling applicants in smaller markets (i.e., markets 31-90) to propose "turn-key" cellular operations for application and made the use of lotteries more efficacious in selecting among those truly mutually exclusive applications.

The advent of PCS will have a great impact on the future development and configuration of all telecommunications networks⁵³ and requires thorough consideration and inquiry if it is to be a success. The Commission is obligated, and is thus far committed, to ensure the successful implementation of PCS. However, that success cannot be measured simply in terms of speed in which licenses are granted. The cellular industry experience (rather than standing as an example of regulatory manipulation), suggests that a thorough, though perhaps expedited, comparative hearing process will help ensure that initial PCS licensees are truly committed to the task and have the requisite technical,

⁵² See, In the Matter of Amendment of the Commission's Rules To Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearings, CC Docket No. 83-1096, 98 F.C.C. 2d 175 (1984) (the "Lottery Order").

⁵³ Notice, para. 4 (emphasis added).

financial and marketing expertise to deliver this valuable communications service to the public.

VIII. TECHNICAL STANDARDS

NYNEX supports the Commission's proposal to "permit significant flexibility" in the development of technical standards to implement PCS systems devices and services. Because the Commission has taken great strides to ensure that domestic PCS development conforms to international development and standards, it is essential that the lines of international technical communication remain open. The true promise of PCS, namely the establishment of world-wide personal mobile communications, can be fulfilled by multinational coordination and standards.

As the nation whose development of and demand for spectrum is greatest, U.S. providers cannot take a "back seat" role in standards bodies. NYNEX supports the enlightened Commission approach to allow standards to be set by the provider community. This will ensure conformity with international standards and allow U.S. providers to take a leadership role in standards development.

Most importantly, the Commission should not be bogged down by standards proceedings, beyond what is absolutely necessary to minimize interference and ensure reasonable compatibility among systems. A Commission advisory committee could provide a useful forum for industry consensus and facilitate a more rapid deployment of PCS. This high level consensus could then be bolstered by more detailed technical

standards such as those established by T1 and other standards committees.

IX. CONCLUSION

The Commission has taken a significant first step in this proceeding. However, to make PCS services a reality, for one customer or 60 million customers, will require PCS providers with substantial technical, financial and marketing resources.

This Commission must adopt rules that allow LECs full participation in PCS. They have the requisite resources to help turn PCS into a reality. In addition, all PCS providers will take advantage of the intelligent network being deployed by the LECs.

The NYNEX Corporation agrees with a recent statement by Commissioner James H. Quello:

"The Commission's role in PCS is to provide for orderly access to spectrum, assuring a competitive marketplace and to foster the development of digital PCS that provides new and innovative services to consumers The appropriate role for the FCC in personal communications services may well be to lead the way to spectrum and then, get out of the way [T]he ultimate judge is the consumer."⁵⁴

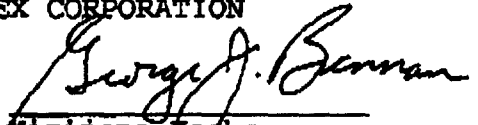
⁵⁴ INTELEVENT 92, Global Alliances in Telecommunications: Partnership for Progress, Address by FCC Commissioner James H. Quello, October 21, 1992, Cannes, France.

All qualified players, including the LECs and cellular providers, should have the opportunity to provide "new and innovative" PCS services.

Respectfully submitted.

NYNEX CORPORATION

BY:


Mirijana Kocho
Mary McDermott
George J. Brennan
Patrick J. O'Shea

120 Bloomingdale Road
White Plains, NY 10605

Its Attorneys

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APPENDIX A

Federal Communications Commission
Notice of Proposed Rulemaking and Tentative Decision
on Personal Communication Systems

Report on
LEC Role in PCS Market Development

Jonathan L. S. Byrnes

Ralph E. Townsend

November 7, 1992

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Federal Communications Commission
Notice of Proposed Rulemaking and Tentative Decision
on Personal Communication Systems

Report on
LEC Role in PCS Market Development

I. INTRODUCTION

The arguments for LEC involvement in PCS deployment are much stronger than even the FCC suggested. Rapid PCS deployment depends upon effective market development, as well as technology installation. PCS market development is inextricably intertwined with broader telecommunications market and technology development. These market development issues are ignored in the Notice. Because LECs bring unique advantages to telecommunications market and infrastructure development, exclusion of the LECs will seriously slow not only PCS development, but also broader telecommunications development, especially in small business and residential markets. Moreover, the FCC has better alternatives available to address its concerns about the ultimate degree of competition between PCS and cellular than the cross-ownership ban.

II. ROLE OF MARKET DEVELOPMENT IN RAPID PCS DEPLOYMENT

Market development, as well as technology development, will be crucial to PCS deployment.

In its Notice, the FCC indicated its desire "to bring that family of services known as PCS to the public expeditiously and with the least amount of regulatory delay". Indeed, in light of the potentially revolutionary impact of PCS on telecommunications, this is clearly the shared objective of virtually all parties to the present Notice.

There are obvious technical issues, notably spectrum allocation, that must be resolved as a prerequisite to development of PCS. There are also a range of network architecture questions to be resolved by the ultimate franchisees. However, successful resolution of technical concerns is not a sufficient condition for the rapid penetration of PCS into the potential customer base. The ability technically to provide PCS will not automatically draw the millions of potential customers. Rather, PCS must be both deployed in a manner that satisfies real needs of consumers and must also be successfully marketed to those customers. This process is much more complex and interactive than the simplistic terms "consumer pull" or "technology push" connote, as we explain in this report.

From previous PCS experiences in Europe and in pilot efforts in the U. S., it is clear that PCS can and almost certainly will take a variety of forms. There are great differences between the very basic services provided under a "cordless pay-phone" technology and more feature-rich alternatives. These differences are not technological; there is general agreement that technology will ultimately be able to support a wide range of options. Choices among various technology options will largely be determined by what features customers want and how much they are willing to pay for alternative PCS services. The value of these advanced features will depend not simply on the PCS handset and PCS infrastructure, but also upon how rapidly customers, and especially smaller customers, are adopting a wide range of other, complementary telecommunications products and services to improve communications in their professional and personal lives. These are market development issues, and they extend well beyond the simple technical availability of PCS spectrum. The convenience afforded by PCS, customer receptiveness to telecommunications-based improvements, and the feature-rich telecommunications network of the future will synergistically drive customer demand for telecommunications.

The FCC should consider the impact of its decisions upon market development, as well as upon technological development.

Market development will be a key ingredient in the rate of deployment of PCS. Marketing is not simply running a few television

advertisements that announce a new service. Rather, market development begins with decisions about how best to match various technical options to customer needs, continues through customer education and service, and evolves with technology into the development of second and third generation products that better serve the needs of customers.

While the results, in terms of exact products that are ultimately sold to customers, cannot be predicted, the process that leads to the development of mass markets does involve predictable steps. FCC decisions about who to license for PCS, and who not to license, will concurrently determine which strategies for market development will emerge for PCS. Thus, the FCC should consider the impact of its rules upon the market development function as well as upon the technical aspects. This report explains the process of market development, and shows that the LECs have an essential, unique role in developing mass markets for PCS, especially among small business and residential customers.

III. UNDERSTANDING MARKET DEVELOPMENT PROCESSES

The process of market development has been an important issue for corporate managers, and for students of business administration and industrial development. The issue has not, however, been a central issue before regulatory commissions. For that reason, we will explain the process of market development for new products.

Telecommunications products are being fundamentally redefined by both new technological options and new applications. PCS is one part of this fundamental shift.

The product delivered by the telephone industry had been surprisingly static in the period that ran roughly from 1920 to 1960. Basically, a voice message was carried between two locations. Great technological innovations changed how the necessary connections were established and how the message was transmitted during this period. The quality of the sound improved significantly and the real price of service declined steadily. Still, the objective of the technology was to establish a connection between two points and then to carry the messages.

The first real product changes were the evolution of non-voice services, initially data and later video services. Data services evolved from simple modem use of voice-grade lines to high-speed

data services and packet-switched services. Now fundamental changes are developing in both voice and data services. Instead of just connecting two points, telecommunications is evolving towards services that connect two (or more) people. Instead of passively accepting all calls, calls are increasingly being "managed" by functions that include voice-mail, voice messaging and call-screening services. Integrated voice-and-data services are developing. Sophisticated new voice, data, and video communication services will fundamentally change the way that many of us conduct our professional and personal lives.

But these changes will not spring magically from some technological platform. Rather, sellers of telecommunications products will have to develop new markets, and this market development will go through predictable stages. In the broad small business and consumer markets throughout our nation, the LECs are essential to this process.

Three stages characterize market development: fragmented markets, mass markets, and mature, differentiated markets.

PCS, like many other new telecommunications services, will provide the basis for fundamentally different ways to accomplish the tasks of business and personal communication. These new products and new ways of conducting business will evolve through the same market development stages that mark all fundamentally new products.

Market development goes through three basic stages: (1) the initial fragmented markets; (2) mass markets; and (3) mature, differentiated markets.

In the first stage, the relatively simple products are targeted at narrow, price-insensitive market segments. In comparison to versions of the product that arise at later stages, these initial products are often expensive and difficult to use. Marketing is targeted at users who place a high value on the service. For communications and information services, this often means that large businesses and wealthy customers are the initial target market. PCS is now poised to enter this first stage of market development.

In the second stage of market development, a few leading firms with a strategic vision invest their resources and expertise in the task of mass market development. The evolution from fragmented markets to mass markets does not occur spontaneously; this evolution is the product of a conscious strategy by a few far-sighted firms. These firms refine the products that they produce or distribute to match the emerging needs of broader markets. They also invest in the expensive process of customer education and customer service. As the firm expands markets, it is able to achieve greater economies in production. Lower production costs, and hence lower prices, provide the basis for still wider market expansion. Consequently, this stage is marked by rapidly declining costs and by rapidly

increasing consumer acceptance. The development of mass markets later leads to the emergence of a variety of segment-specific applications as customers learn about new ways to utilize the products.

The final stage of market development, mature markets, is characterized by a diversity of products and by a diversified set of vendors. With the broad customer base developed in the second stage, numerous specialty firms can successfully target relatively small sets of customers with specific needs and interests. Market strategies can vary from low-cost delivery of products, to maintenance of a reputation for high quality products, or to development of sophisticated customer support and after-the-sale service networks. In this final stage of market development, the strategies and organization of firms will vary widely, just as their products do.

Progress in market development is neither automatic nor guaranteed. Mature markets, the consumers' nirvana of broad choices and sharp price competition, do not simply arise spontaneously. Strategic decisions and substantial marketing investment must first propel the creation of mass markets. The national nostalgia may be served when some bright young entrepreneur working from a converted barn sparks this mass market creation. But large business enterprises have comparative advantages to bring to the process of mass market development. Mass market development is much more than simply

having a better idea; it involves translating that idea into a product that customers want, understand, and are able to use. Large organizations often are better able to manage the process of risky, long-term investments. They understand the process of matching the marketing process to the customers being targeted.

The role of Sears in developing mass markets for consumer durables provides a classic illustration of how the strategic vision and the marketing investments of a single firm can propel market development. Prior to the entry of Sears, most consumer goods were locally manufactured and distributed. Many items were custom made; others were produced in small production runs. Sears had the strategic vision that production economies made possible by the industrial revolution required national consumer markets. But such a national market required that customers feel comfortable buying products from distant, virtually anonymous manufacturers. Sears built that customer confidence by providing high-quality customer education and customer service functions. Sears also placed its own reputation and resources at risk by guaranteeing the quality and after-sale support of the products, even if manufactured by others. Where combinations of products and services were needed to meet customer needs, Sears provided the customer-specific needs analysis, packaging, and after-sale support.

On the supply side, Sears did more than simply provide suppliers with large orders that permitted economies in production. Sears

also worked with suppliers to provide consistent quality of products and to help suppliers understand what features customers sought. Sears was able to focus its resources and energies on the process of building markets. Sears' vision proved a spectacular success for its customers, its suppliers, and its own market interests.

The products that can be created from new telecommunications technologies will provide the basis for a fundamentally new market in communications services. PCS will provide an important component in many of these new applications. But the lessons of market development show that we will not jump from the current fragmented applications to broad mass markets for new communications services. Mass markets develop because individual firms focus their strategies on mass market development. As we discuss in detail below, LECs, uniquely among telecommunications firms, have the strategic imperative, unique capability, and heritage of ubiquitous service in all communities to develop mass markets to serve all customers, including small business and residences.

IV. THE FUTURE OF PCS

The future of PCS and broader telecommunications products are interlinked, both in terms of supporting infrastructure and functionality provided to consumers.

The potential for PCS to reshape the telecommunications industry is widely recognized. A call that is conducted between two people instead of between two locations offers much more than simply greater convenience. It offers the opportunity to provide much more sophisticated communications services to customers. Already, some in the industry are talking about redefining telecommunications service as completing a communication (of some type) with the intended recipient, rather than simply attempting to communicate.

Ubiquitous PCS will create the need to manage the flow of communications, as well as the opportunities to smooth those communications. While "telephone tag" may be reduced, users will increasingly find a need to manage calls. This may involve selective routing of some calls directly to the PCS handset, while other calls are routed to support staff or voice mailboxes. For more advanced PCS services, intelligent network services become vital. But the demand for intelligent services for PCS will also be vital to the economics of building ever more sophisticated capabilities into the public network as a whole. For example, the concern over